



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,276	10/26/2000	Manoj Kumar Singhal	7416/78599	4589

24628 7590 03/20/2003

WELSH & KATZ, LTD  
120 S RIVERSIDE PLAZA  
22ND FLOOR  
CHICAGO, IL 60606

EXAMINER

SMITS, TALIVALDIS IVARS

ART UNIT	PAPER NUMBER
----------	--------------

2654

3

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

***Election/Restriction***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-28, drawn to pitch estimation, classified in class 704, subclass 207.
  - II. Claims 29-36, 52-54, and 67-76, drawn to Voiced/Unvoiced determination, classified in class 704, subclass 208.
  - III.. Claims 37-51, 55-66, and 77-79, drawn to speech synthesis from spectral data, classified in class 704, subclass 268.
2. Inventions I or and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility as a pitch estimator for a pitch transformer in secure communication, used to disguise speaker identity by changing pitch, while in invention II the estimated pitch value parameter could be included in coded portions of a speech signal that are classified as "voiced", for later decoding. See MPEP § 806.05(d).
3. Inventions I or II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because different speech coders than those using invention I and II (*e.g.* a standard

frame-length-based FFT or MDCT, not using any pitch or voicing determination) can produce the needed spectral data for invention III for synthesizing speech. The subcombination has separate utility such as determination of whether a musical or a noisy or data signal is being input for choosing the appropriate method of compression for transmission or storage.

***Conclusion***

**4. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or FAXed to:**

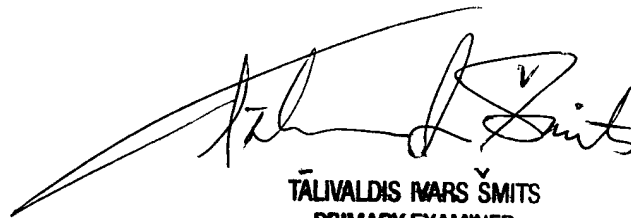
(703) 872-9314 (please label *formal* communications  
"OFFICIAL"; please label *informal* or draft communications,  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Talivaldis Ivars Smits, whose telephone number is (703) 306-3011. The examiner can normally be reached Mondays-Fridays from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold, can be reached on (703) 305-4379. The facsimile phone number for Technology Center 2600 is (703) 872-9314.

6. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 customer service, whose telephone number is (703) 306-0377.



TĀLIVALDIS MĀRS ŠMITS  
PRIMARY EXAMINER

Art Unit 2654  
March 18, 2003